

United States Department of Agriculture,

DIVISION OF AGROSTOLOGY.

[Grass and Forage Plant Investigation.]

RECENT ADDITIONS TO SYSTEMATIC AGROSTOLOGY.

In 1890 there was published under the title of "The True Grasses" a translation of Edward Hackel's contribution to the great work of Engler and Prantl, "Pflanzenfamilien," by F. Lamson-Scribner and Effie A. Southworth. Since the date of this publication a number of important works on grasses have appeared and several new genera have been described. Last year, 1898, Hackel published, in a supplement to the German work above cited, the important recent additions to literature and descriptions of the new genera which have appeared since the publication of his first work. A few of these additions appeared in "The True Grasses," but the recently-described genera and important changes in nomenclature, not published in that work, warrant their presentation at this time for the use of American students of grasses. Naturally the contents of this circular are based largely upon the "supplement" here referred to.

NEW LITERATURE.

A. et Cas. de Candolle, *Monographiæ Phanerogamarum*, Vol. VI. Andropogoneæ, auct. E. Hackel, Paris, 1889.—H. Baillon, *Histoire des Plantes; Monographie des Gramineés*, Paris, 1893.—O. Kuntze, *Revisio Generum Plantarum*, pars II (1891).—Bruns, der Grasembryo (Flora 1892).—Celakovsky, Ueber den Aehrchenbau der brasilianischen Graspattung *Streptochaeta*, in Sitzungsbericht der Boehmischer Gesellschaft der Wissenschaften, 1889.—Derselbe, Das Reducationsgesetz der Blätter das. 1894. Derselbe, Nejnovější badání a názory o embryu trav. (Die neuesten Forschungen und Ansichten über den Grasembryo (boehmischen), in Věstníka České Akademie Fr. Josefa V, 1896).—A. Schlickum, Morphologie und anatomisch Vergleich der Kotyledonen und ersten Keimblätter der Keimpflanzen der Monokotylen, Bibl. bot. Heft. 35 (1896).

ADDITIONS AND CHANGES.

After *Zea* L. add as a synonym *Thalysia* L. 1735.

After *Tripsacum* L. add as a synonym *Dactylodes* Zanoni-Nonti. 1742.

After *Coix* L. add as a synonym *Sphaerium* L. 1735.

After *Pollinia* Trin. add:

Ischnochloa Hook. f.—Spikelets very small in solitary clusters in the leaf-axils, on a continuous rachis, arranged in pairs, one sessile, the other long pedicellate, both hermaphrodite, lanceolate, long-awned. First empty glume subcoriaceous, compressed dorsally, 5-6-nerved; the second similar, 3-nerved, both awnless. Third empty glume wanting; flowering glume awned from the cleft in the apex; awn slender, geniculate. Stamens 3.

Species one (*I. Falconeri* Hook. f.) in the northwestern Himalayas; a delicate grass, growing among moss, similar in habit to *Arthraxon microphyllum*, but without close relationship to that species. At first this would seem to belong to section 2 of *Pollinia*, in which, forms occur without the third empty glume; but in *Pollinia* the racemes are never solitary and the rachis is articulate.

The genus *Manisuris* Sw. has been renamed *Hackelochloa* by O. Kuntze because *Manisuris* is used for *Rottboellia* L. f. Hackel had already stated this fact in DC. Monogr. Phanerog. Vol. VI, p. 314, without drawing the same conclusion as O. Kuntze.

After *Rhytachne* Desv. add *Lepturopsis* Steud., as a synonym.

After *Andropogon* L. add *Sorghum* L. 1735, as a synonym.

Under the subgenus *Schizachyrium* add *Heterochloa* (Desv. as a genus) as a synonym.

The subgenus *Hypogynium* is divided into two sections in DC. Monogr. Phan. VI.: *Euhypogynium* and *Pseudanthistiria*; the latter has been raised to a genus under this name by Hook. f. in Flora Indica.

Under the subgenus *Arthrophis* insert *Arthrostachys* Desv. as a synonym.

Under the subgenus *Amphilophis* insert *Bothriochloa* O. Kuntze, with one species (*B. anamitica*) from Anam. The difference may only lie in the different interpretation of the inflorescence.

Under the subgenus *Dichanthium* add *Diplasanthum* Desv. as a synonym.

After *Tragus* add:

Monelytrum Hack. Spikelets 4-5, in closely approximate fascicles, simulating a 4-5-flowered spike, the fascicles crowded into long, thick, awned, and woolly spikes somewhat resembling *Alopecurus*. First empty glume

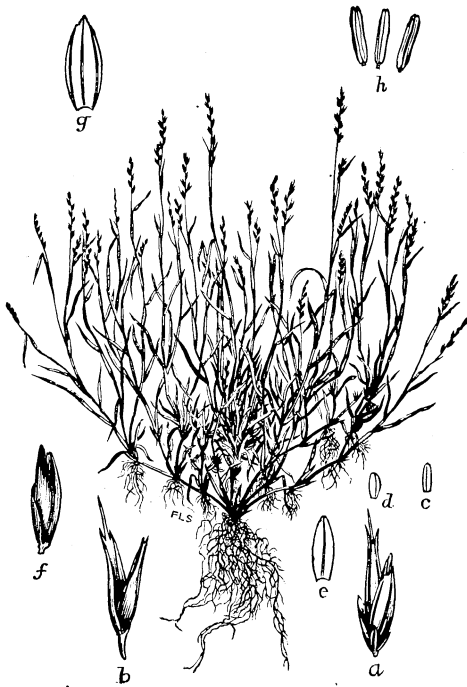


FIG. 1.—*Fourniera mexicana*, male plant: a, spikelet; b, second floret; c, d, e, the three outer glumes (c, corresponds to e in fig. 2); f, the floral glume of the same; h, stamens. The details are all drawn upon the same scale.

wanting, the second large, rough-nerved, but without bristles, terminating in a long, spreading awn. Flowering glumes almost of equal length, thin and bristle-pointed. Palea obtuse. Lodicules none. Only the lowest spikelet of each fascicle hermaphrodite, the second staminate, the bristle-form, uppermost one sterile.

Species one, *M. luderitzianum* Hack., in German Southwest Africa.

Nazia Adans, 1764, is a synonym of *Tragus* Hall, 1768.

After *Schaffnera* add:

Fourniera Scribn. (figs. 1, 2). Distinctly dioecious. Spikelets solitary and sessile along a continuous rachis, falling off at maturity, the two sexes unlike; staminate spikelets two-flowered, the lower flower sessile, the upper raised on a short pedicel, which is not prolonged beyond the flower; empty glumes three, in

a whorl, the two anterior ones shorter and narrower; flowering glumes 3-nerved, those of the upper flowers 3-toothed, teeth awnlike. Stamens three. Pistillate spikelets one-flowered, with a three-awned prolongation of the rachilla beyond the flower; empty glumes 3, equal, cuneate, whorled, flowering glumes on short pedicels, 3-nerved, 3-toothed, the middle tooth longest; styles 2; stigmas plumose. A delicate, much branched, creeping grass with erect spikes.

Species one (*F. mexicana* Scribn.) in Mexico.

This grass is quite distinct from other members of the tribe. The significance of the three empty glumes standing in a whorl is not clear; in the pistillate plant they are attenuated below into a short, bearded pedicel and appear almost like an involucre of three rudimentary spikelets (compare *Themeda*).

Under *Paspalum*, Sect. I, *Eupaspalum*, insert *Paspalanthium* Desv. as a synonym.

Under *Panicum* insert, after *Trichachne*, *Gramerium* Desv.? as a synonym.

After *Oplismenus* Beauv. add *Hippagrostis* Rumph., 1749, as a synonym.

Under *Setaria* add:

"The generic name *Setaria* has been much discussed in recent times from the fact that it was originally used by Beauvois for a species of *Pennisetum* and moreover had been used before by Acharius for a genus of lichens. O. Kuntze combines *Setaria* with *Chamaeraphis* R. Br. and uses for *Setaria* the latter, older name; Scribner, on the contrary, rightly does not approve of this combination, and proposes for *Setaria* the new name "*Chaetochloa*" now adopted by American authors.

After *Chaetochloa* add:

Setariopsis Scribn. Rept. Field Columb. Mus. (bot. ser.) 1: 288, 1896. Plate XI. Panicles narrow, interrupted, and spike-like, the short branches bristle-pointed; second glume broadly ovate or orbicular, auriculate or cordate at the base, 11-13-nerved; third glume narrow, 11-nerved, lyre-shaped, the margins below becoming somewhat coriaceous at maturity; the fourth or flowering glume much shorter than the second and third, apiculate or mucronate-pointed.

Species two, in Mexico and Central America.



FIG. 2.—*Fourniera mexicana*, female plant: a, terminal portion of rachis with two spikelets; b, a spikelet; c, d, e, outer glumes (e may represent a glume-like continuation of the secondary axis supporting the spikelet, or it may represent a second spikelet of a cluster or two); f, flowering glume raised upon a short joint of the rachilla (stipe); g, palea. At the left of a is a 3-awned prolongation of the rachilla. The pistil is shown in the upper left-hand corner.

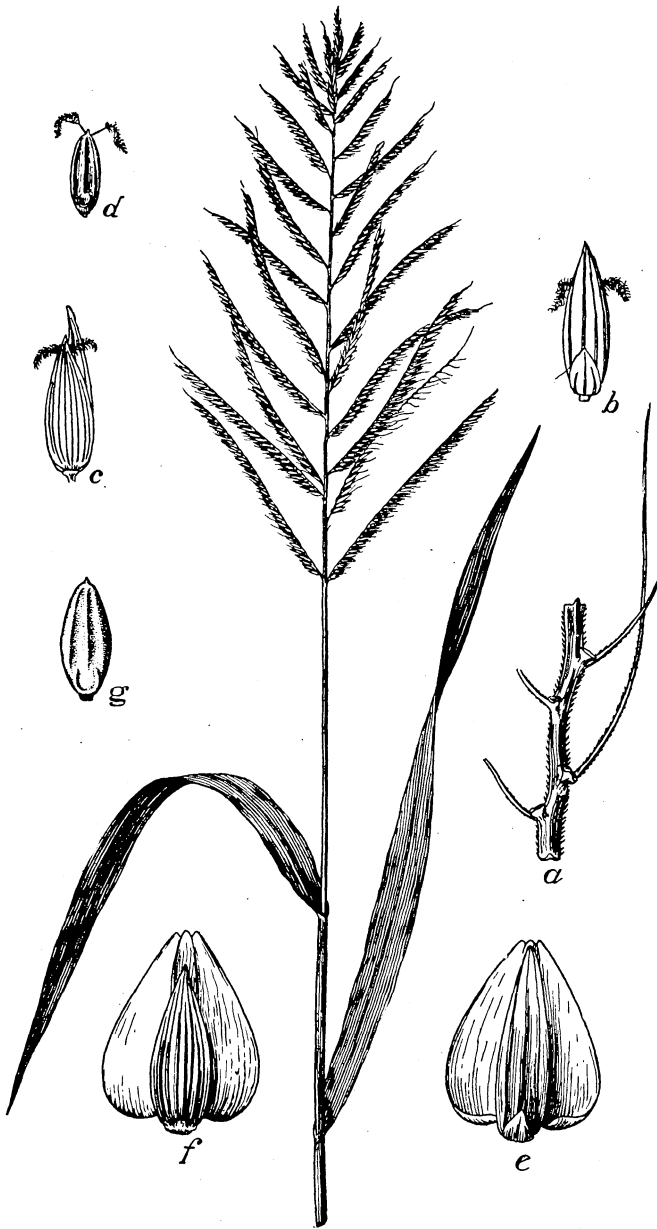


FIG. 3.—*Irophorus unisetus*: *a*, a portion of the rachis of one of the racemes; *b*, a spikelet showing back of the first and third glumes; *c*, a spikelet showing the many-nerved second glume; *d*, fourth or flowering glume seen from the back with the projecting styles and stigmas; *e*, spikelet in fruit, showing the first and third glumes and the broad wing-like margins of the palea of the third glume; *f*, the same as *e*, seen from the other side; *g*, dorsal view of the fourth glume in fruit.

Reduced by Hackel to a section of *Setaria*.

After *Setariopsis* add:

Ixophorus Schlecht. (fig. 3), which Bentham and Hackel formerly placed with *Setaria*, is a well-defined genus. Characters: Spikelets 2-flowered, the upper flower hermaphrodite, the lower staminate, arranged in two rows along the branches of a simple panicle, their pedicels provided with a smooth, sticky, awn-like bristle (*chaetocladium*). First empty glume very short; second somewhat shorter than the third; the latter 5-nerved, much longer than the flowering glume of the hermaphrodite flower, which is awn-pointed. The palea of the staminate flower (in the axis of the third glume) has at maturity two broad, parchment-like wings, determining the form of the spikelet. Very different from *Chaetochloa* in inflorescence, approaching in this respect the section *Ptychophyllum* of *Panicum*. The viscid secretions on the bristles are worthy of notice.

Species two, in Mexico.

After *Ixophorus* add: **Dissochondrus** (Hillebr. as subgenus) O. Kuntze. Like *Chaetochloa*, but both flowers hermaphrodite with coriaceous, persistent flowering glumes and palea; the leaf-blades attenuate below, the mouth or throat of the sheath with two long, narrowly-lanceolate lobes.

Species one (*D. biflorus* O. Kuntze) in the Sandwich Islands.

The synonym *Oxyanthe* Steud., under *Pennisetum*, probably belongs to *Arundo*.

Under *Oryza* add: *Rhynchoryza* Baill., founded on *Oryza subulata* Nees (from Brazil), differs from *Oryza* only in the flowering glumes being lengthened into a hollow beak, articulated by separation-membranes (instead of a deciduous awn) and in the united lodicules. It might better be regarded as a subgenus of *Oryza*.

After *Piptochaetium* Presl, add as a synonym *Caryochloa* Spreng.

The genus *Brachyelytrum*, through recent discoveries, has undergone an extension and is now be divided into three subgenera, as follows:

Sect. 1. *Aphanelytrum* Hack. Empty glumes diminutive, scarcely 0.5 mm. long, often wanting. Flowering glumes subhyaline with short, subulate awn.

Species one (*B. procumbens* Hack.) Ecuador.

Sect. 2. *Eubrachyelytrum* Hack. Empty glumes short, firm in texture, the upper about one-eighth the length of the flowering, which is long awned.

Species one (*B. aristatum* Beauv.), North America.

Sect. 3. *Pseudobromus* K. Schum. as a genus. Empty glumes from one-half to two-thirds the length of the flowering glume, which is long-awned, firm, herbaceous.

Species two, in Africa: *B. Africanum* Hack., in Transvaal and *B. silvaticum* (K. Schum.) Hack., in Kilimandscharo.

After *Crypsis* Ait. add as a synonym *Pallasia* Scop.

Chaboissæa Fourn., Mex. Pl. Enum., Gram. 112. 1886. Spikelets in narrow panicles, 2-flowered, the lower flower hermaphrodite, the upper imperfect; empty glumes unequal; flowering glumes mucronate-pointed and ciliate on the margins; stamens 3; styles long; stigmas plumose.

Species one in Mexico. Allied to *Muhlenbergia*.

Before *Mibora* Adans. insert **Brousmichea** Bal. False spike cylindrical; empty glumes solitary and united below at the margins for one-third to two-thirds their length. Flowering glume awnless, 1-nerved; palea nerveless. Lodicules none. With the aspect of *Sesleria*.

Species one (*B. seslerioides* Bal.) in Tonkin.

After *Garnotia* insert the three following genera:

Woodrovia Stapf. (Hook. Icon, Pl. 5: Pl. 2447. 1896). Spikelets in slender racemes which are subdigitately paniced; empty glumes compressed, 1-nerved with a rounded, thickened keel, the first much exceeding the 2-lobed flowering glume which bears a slender, geniculate awn between the lobes; stamens 2. Annual.

Species one (*W. diandra* Stapf.) from India.

Garnotiella Stapf. Spikelets solitary along the short branches of an elongated panicle, articulate with the pedicels. Empty glumes delicate, nerveless, not keeled, the second mucronate-pointed. Flowering glumes very small, with a long, geniculate and twisted awn from the cleft of the apex. Palea very small. Lodicules wanting. Stamens 2. Habit like *Garnotia*.

Species one (*G. philippinensis* Stapf.) in the Philippine Islands.

Cyathopus Stapf. Spikelets solitary along the branches of an open panicle, articulate on short pedicels, which are thickened and cup-shaped above. Empty glumes 3-nerved, mucronate; flowering glume somewhat shorter, more delicate, 5-nerved (the nerves disappearing below the apex), awnless. Palea hyaline. Lodicules 2; stamens 3.

Species one (*C. sikkimensis* Stapf.) in Sikkim-Himalaya.

Before *Zenkeria* Trin. insert:

Massia Bal. (*Megalachne* Thw. non Steud.). Panicle open; empty glumes lanceolate, subulate-pointed, many nerved; flowering glumes with a stout, terminal awn, finally becoming indurated together with the long, two-awned palea.

Species one (*M. trisetia* Bal.) from Ceylon to Tonkin.

After *Spartina* Schreb. add *Chauvinia* Steud. as a synonym.

After *Chloris* Sw. insert *Biatherium* Desv. as a synonym.

After *Monochaete* Doell. insert *Doellockhoa* O. K. as a synonym.

Before *Craspedorachis* Benth. insert:

Willkommia Hack. Spikes densely flowered; empty glumes flat, not keeled, one-nerved. Flowering glume with pointed, short-haired callus at the base, hyaline, short-awned. Palea somewhat shorter than the flowering glume, obtuse. Lodicules wanting.

Species three, in southwestern Africa.

Before *Tripogon* Roth. place:

Pentarraphis Kunth. (*Polyschistis* Presl.) Spikes or rather groups of spikelets fascicle-like, consisting of 1-2 spikelets, and 1-2 awn-like, often two-cleft, rudiments of a second or third, loosely arranged on the main axis of the inflorescence. Spikelets 2-flowered, the upper flower generally staminate, the lower hermaphrodite, the first empty glume of the spikelet very narrow (in the dried condition), awn-like; in case but one fertile spikelet is present in each group the first empty glume of the same forms, with the 4-5 awn-like rudimentary glumes, an apparently lateral fascicle of awns (resembling a deeply 5-cleft glume), when there are two fertile spikelets there is between them a fascicle of 3-4 awn-like glumes. The flowering glume is always 3-awned. Low, turf-forming grasses.

Species two, in Mexico. (See Scribner in Bull. Torr. Bot. Club, 17: 121, plates 107 and 108.)

Lepidopironia Rich. is reduced to a synonym of *Tetrapogon*.

Opizia Presl, Hackel amplifies and recharacterizes as follows:

Staminate spikelets in 2-5 spikes, like those of section 1 of *Bouteloua*; pistillate spikelets in two rows, on short spikes, which are half hidden in the sheaths of the lower leaves, one-flowered; the first empty glume short, the second as large as the flowering glume, the latter 3-cleft, 3-awned; palea shortly 2-toothed or 2-lobed. Above the fertile flower 1-2 sterile glumes, either 3 or many-awned. Low, creeping grasses. (See Scribner in U. S. Dept. Agr. Div. Agros. Bull. 4: 9, f. 4.)

Sect. 1. *Euopizia*. First empty glume of the spikelet very small. Flowering glume of the pistillate flower as well as sterile glumes with 3 long awns. *O. stolonifera* Presl. (Fig. 4.) Mexico.

Sect. II. *Pringleochloa* Scribn.* (as a genus). First empty glume of the pistillate spikelet linear, little shorter than the second; flowering glume of the fertile flower shortly 3-cleft; the 2-3 sterile ones many awned above. *O. Pringlei* (Scribn.) Hack. (Fig. 5.) Mexico.

The characters of *Orcuttia* Vasey, should be modified as follows: Caespitose, spreading annuals with large, many-flowered spikelets in terminal spikes; flowering glumes broad, many-nerved, and toothed or lobed at the broad apex.

Species two, in Southern California.

After *Diplachne* insert:

Pogochloa Moore. Spikelets laterally compressed, 5-flowered, two-ranked on long panicle branches (the rows approximate below), sessile. Empty glumes unequal, the lower 3-5-nerved, the upper with 9 strong nerves. Flowering glumes boat-shaped, keeled, 3-nerved, shortly two-toothed or almost entire, with a long, erect awn between the teeth.

Species one (*P. brasiliensis* Moore). In the state of Matto Grosso, Brazil.

Under *Eragrostis* there is to be added under

Sect. I. *Cataclastos*. *Cladoraphis* French, (as a genus), is a one-flowered depauperate form of *E. spinosa* Nees.

Ipnum Phil. is reduced to *Diplachne*.

After *Eragrostis* add:

Halopyrum Stapf. Spikelets many-flowered, in narrow panicles with a hairy axis breaking up at maturity. Empty glumes shorter than the flowering glumes, the lower 3- the upper 5-nerved. Flowering glumes firm in texture, keeled, 3-nerved, mucronate-pointed. Caryopsis broadly furrowed in front. In other respects like *Eragrostis*, with the section *Platystachya* of which it is closely related. Bentham placed the species belonging here in *Eragrostis*, Sect. *Sclerostachya*, a conglomeration of species not closely related, which ought to be completely broken up.

Species one (*H. mucronatum* Stapf., *Brizopyrum mucronatum* Nees, according to Stapf. = *Uniola mucronata* L. ?) distributed along the coast of the Indian Ocean from Ceylon to the mouth of the Zambezi; a grass with rigid, convolute leaves.

Anthochloa Nees (in Pl. Meyen, 164). (*Stapfia*, and *Neostapfia* Davy, and *Davyella* Hack.) Panicles densely flowered, ovoid or cylindrical and spikelike; spikelets 2-5-flowered; flowering glumes thin-membranaceous, broad, flabelliform, finely toothed and minutely ciliate-fringed, awnless; lower glumes narrow, sometimes wanting.

Species three, two South American; one, *A. colusana* (Davy) Scribn., from California.

After *Lasiochloa* Kunth, add as a synonym *Tribolium* Desv.

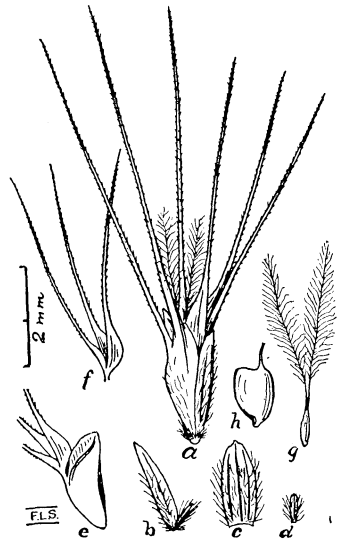


FIG. 4.—*Opizia stolonifera*: a, female spikelet; b, empty glumes; c, second empty glume; d, first empty glume; e, palea and adnate sterile rudimentary floret (f); g, pistil; h, caryopsis.

* (Bot. Gaz. 21: 137, plate 13.) Monocious, staminate and pistillate spikelets unlike. Staminate spikelets one-flowered, in racemose, unilateral spikes on erect branches; pistillate spikelets on short, basal branches; flowering glumes 3-awned, with rudimentary, many-awned empty glumes above. Low, stoloniferous perennial.

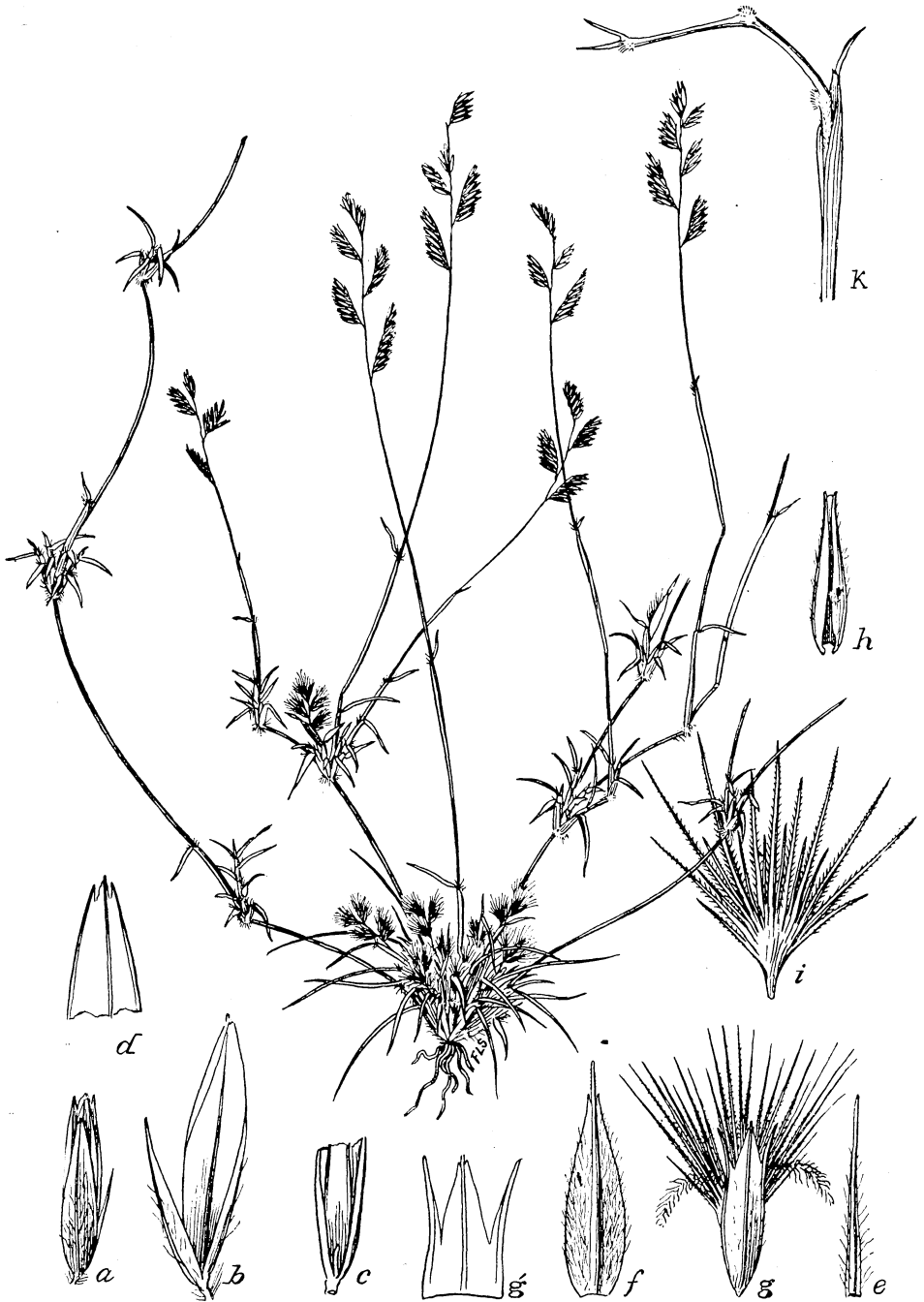


FIG. 5.—*Opizia pringlei*: *a*, staminate spikelet, showing the back of the second glume, etc.; *b*, empty glumes of the staminate spikelet, more highly magnified; *c*, lower part of the staminate floret, showing the short continuation of the rachilla behind the palea; *d*, apex of the flowering glume of the staminate spikelet; *e*, first glume of the pistillate spikelet; *f*, second glume of the same; *g*, pistillate spikelet, dorsal view, empty glumes removed; *h*, palea of the female floret; *i*, fourth glume of the pistillate spikelet, the glumes above these have successively fewer awns; *k*, rachis, to which were attached three female spikes.

After *Cynosurus* insert:

To section *Phalona* belongs *Pterium* Desv. (as a genus). For *Lamarckia* Moench., O. Kuntze has brought forward the older synonym *Achyrodes* Boehmer. 1760.

After *Festuca* insert:

Littledalia Hemsley, probably belongs to *Festuca* (as a section ?); from the description and illustration there appears to be no other difference than the 7-nerved (in *Festuca* 5-nerved) flowering glume. Of these 7 nerves 3 extend almost to the obtuse, unawned apex. *Littledalia tibetica* Hemsley is a noteworthy grass 2.5 cm. high, with large spikelets.

After *Bromus* add:

Duthiea Hack. Spikelets 3-5 flowered, in simple, compact, almost capitate racemes, short-pedicelcd, the pedicels of the lowest often with subtending bracts; empty glumes 5-7-nerved, nearly as long as the first flowering glumes or longer. Flowering glumes rounded on the back, many-nerved, two-lobed, with a somewhat geniculated awn between the lobes, which is slightly twisted below. Lodicules wanting. Ovary long and densely hairy, with a style which is cleft above into very long, threadlike, projecting stigmas that are covered with short hairs.

Species two: *D. bromoides* Hack. in Cashmere and *D. oligostachya* (Munro) Stapf, in Afghanistan.

Euraphis Trin. (as a section) is a synonym of *Boissiera* Hochst.

Instead of *Kralikia* Coss. Dur., O. Kuntze has introduced the name *Arcangelina*. On account of the homonymous older genus of *Compositae* of Shultz, Cosson and Durieu had already changed the name to *Kralikella* on the printed labels of the Dauphinese Society. Since, however, in Hofmann's work on the *Compositae* the genus of Schultz is suppressed, the name may remain in use for the genus of *Gramineae*.

Under *Jouvea* Fourn. may be included a grass from Lower California described by Vasey and by him made the type of a new genus, *Rhachidospermum*. (See Scribner, in U. S. Dept. Agr., Div. Agros. Bull. 4: 11.)

Under *Monerma* Beauv. add as a synonym *Ophiurinella* Desv.

Under *Haynaldia* add the following note:

Instead of *Haynaldia* Schur., Durand has introduced the name *Dasypyrum*, used by Cosson and Durieu as the name of a section, on account of the homonymous fungus genus of Schulzer-Mueggen. However, the latter originated the same year (1866) as that of Schur. and it is not evident which name was published first; moreover, *Haynaldia* Schulzer is ignored by modern mycologists, as for example, Saccardo and Schroeter.

Under *Arundinaria* add as a section, *Glaziophyton* (Franch. as a genus), which is connected with the section *Thamnocalamus* on account of the subtending leaves of the spikelets and panicle-branches, but which bears the panicles on leafless, nodeless culms, breaking up by means of separation-membranes, while the leafy culms (and not rarely also the leafless) remain sterile, similar to *A. falcata* and *A. khasiana*, species found in the Himalayas.

Species one (*A. mirabilis* (Franch.) Hack.) in Brazil.

After *Arundinaria* add:

Microcalamus Franch. Spikelets only 2-flowered, the upper flower hermaphrodite, the lower staminate or reduced to the two glumes, without a sterile flower above the hermaphrodite. Empty glumes 2, short; flowering glumes of the lower flower similar to the empty glume, that of the hermaphrodite flower longer, narrower, keeled, bow-shaped. Palea naked on the keels. Styles 2, long and slender, free, their stigmas short, broad-plumose. Herbaceous, not more

than 0.5 m. high, with rootstock, slender culms, and lanceolate leaves, the short stalks of which are articulate with the sheath. Panicle few-flowered, terminal.

Species one (*M. barbinodis* Franch.). In the Congo region.

After *Phyllostachys* add:

Fargesia Franch. This genus differs from *Phyllostachys*, of which it will be much better classed as a section, principally on account of the sessile (in *Phyllostachys* pedicellate) fruit-nodes, and 3 styles separated to the base (in *Phyllostachys* being grown together for quite a distance).

Species one (*F. spathacea* Franch.), in China.

Under *Bambusa* Schreb. insert *Arundarbor* Rumph. as a synonym.

To *Bambusa* probably belongs a form first described by Gamble as a new genus *Microcalamus* (non Franch., whose name is older), then referred to *Arundinaria* (as *A. prainii*). Habit of *Arundinaria*, but with 6 anthers. Seems to be closely related to *Bambusa senanensis* Franch.

Sect. III. *Guaduellia* Franch. (As a genus) according to Franchet's more recent and complete statements must be restored to generic rank.

Before *Atractocarpa* Franchet insert:

Thyrostachys Gamble. Spikelets two-flowered, arranged in twos or threes along the panicle-branches, subtended by large bracts. Empty glumes 2; flowering glumes broad, many-nerved. Palea of the lower flower 2-keeled, 2-cleft almost to the middle, with subulate divisions, those of the upper flowers rounded on the back, slightly or not at all cleft. Lodicules 2; stamens 6, free. Ovary on short pedicel, depressed turbinate. Style long, with 3 plumose stigmas.

Species two, in Burmah.

Oreobambos K. Schum. Spikelets two-flowered, arranged in many-flowered whorls, subtended by 2 broad bracts; empty glumes 1-2; flowering glumes broad, many-nerved. Palea generally two-keeled, rarely rounded on the back. Lodicules wanting. Stamens 6, free. Ovary on a short, naked gynophore, 3-cornered-ovate, smooth, produced or attenuated into a long, hairy, undivided style with simple (?) stigma.

Species one (*O. Buchwaldii* K. Schum.) in Usambara.

Before Subtribe *C. Dendrocalameae* add: **Bonia** Balansa, a doubtful genus of the *Eubambuseae*, is characterized as follows: Spikelets 3-4, sessile on the panicle-branches, 3-4-flowered; the empty glumes separated from the nearest flowering glumes by a naked internode 1 cm. long, which they surround like a sheath; lowest flower articulate with this internode. Flowering glumes 7-nerved. Palea 2-keeled. Lodicules 3. Stamens 3. Styles 3, grown together to the middle. Stigmas plumose, elongated. Caryopsis cylindrical.

Species one (*B. tonkinensis* Bal.) in Tonkin. The genus is very closely related to *Bambusa*; the significance of the two lowest bracts (called empty glumes by Balansa) is doubtful.